IN THE ZONE

Journal of the Oregon Department of Transportation Traffic Control Plans Unit *January 2011*

Traffic control on Interstate 5 at the South Medford Interchange project in 2009. The project required several traffic control components, including freeway and arterial lane closures, diversion bridges, and full road closures in one of the Rogue Valley's busiest areas.

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The ODOT Traffic Control Plans Unit develops the standards for traffic control plans for construction projects to provide safe and efficient movement of people and goods through work zones while allowing efficient completion of construction projects.

Welcome to In The Zone!

Good communication has always been a hallmark of quality products. Understandable speeches, clear emails, and uncluttered plan sheets all help communicate ideas and transform them into the transportation system that keeps our state moving. The Traffic Control Plans Unit understands this importance and wants to add to its communications tool box through a regular newsletter to our customers.

The newsletter is intended to be an information sharing bulletin to keep our clients up-to-date on traffic control plans-related news, events, and activities. Manual updates, new technologies, news around the state, and a summary of upcoming classes and events are among some of the articles you'll find.

It is also another form of media for you to share your ideas and experiences with the rest of Oregon's traffic control plans community. By sharing what's been working, or not working, in the field, you can help the rest of us learn from your experiences – ultimately benefiting the traveling public.

Look for the newsletter at our website (http://www.oregon.gov/ODOT/HWY/TS/traffic_control_plans.shtml). New issues will be posted quarterly or as needed. For questions, comments, article ideas, or letters to the editor, please contact Eric Leaming at eric.s.leaming@odot.state.or.us.

Bridge diversion (far left) and bridge construction (center) across the Willamette River on Interstate 5 near Eugene in 2010. Credit: Nick Fortey, FHWA.

Moving Forward: using Smart Work Zones for a better traveling environment

Smart work zones provide a proven set of traffic management strategies for addressing complex challenges to assure the safety and mobility of the traveling public through road construction projects. The smart work zone is an Intelligent Transportation Systems (ITS) application and can be a stand-alone system or may supplement existing systems.

The Portable Traffic Management System (PTMS) is a new listing on the ODOT Qualified Products List (QPL). On the QPL, under the PTMS item, is a list of ITS providers who have the expertise to provide and bundle components into a real-time system. The hardware for the system consists of traffic sensors, portable changeable message signs, and video cameras. The software components process the real-time information collected from the hardware located on the project.

The PTMS continuously measures real-time traffic speed, volume, and occupancy and processes the data to provide timely information to notify motorists of changing traffic conditions. The information can notify motorists of travel times, delays, and control vehicle speeds. Alternate route and merging systems can provide drivers with routing choices and positive directions.

There are substantial positive impacts for increases in safety and mobility when using a smart work zone application. Case studies show a reduction of delay from 46 to 55 percent when a smart work zone is deployed. Motorists are provided with credible, real-time information to make informed travel decisions. The system also fulfills an incident management function for increased safety.

For more information on smart work zones or other TCP-related ITS applications, please contact Don Wence, TCP Standards Engineer, at donald.e.wence@odot.state.or.us.

Multimodal Minute: *new ADA-compliant Pedestrian Channelizing Devices*

Pedestrian access routing in and around a work zone is an important component of temporary traffic control plans. Part 6 of the MUTCD requires TCP designers to consider all users traveling through the work zone, including pedestrians.

The Pedestrian Channelizing Device (PCD) is a new Americans with Disabilities Act (ADA) compliant traffic control device that will replace Pedestrian Fencing and Chain Link Fencing as ODOT's means for providing temporary pedestrian access routing. The PCDs are sturdy and stable to provide positive guidance through the entire temporary pedestrian access route. The PCDs have a vertical face or rails facing towards pedestrians with no protruding footings into the path. A continuous edge is provided throughout the temporary pedestrian access route by interlocking the PCD sections together.

Safety Rail™, produced by Plastic Safety Systems, Inc., is an example of the new Pedestrian Channelizing Devices.

A temporary pedestrian access route that utilizes a pedestrian detour involves closing a section of sidewalk. The pedestrian detour needs to be adequately signed, limit out-of-direction travel, and include ADA compliant wheel chair ramps.

Look for more information in the next issue of *In The Zone* when we will discuss a new Temporary Pedestrian Detour Routing standard drawing, to be included in the June 2011 Standard Drawing series.

Heard Around the State: News Briefs and Letters to the Editor

Region 2 prioritizes heavy work load

Making efficient use of limited resources is one of the many challenges engineers attempt to solve every day. ODOT Region 2's Traffic Unit is no stranger to managing workload and resources. The unit recently had eight projects to develop traffic control plans for, all approaching Advance Plans and Final Plans simultaneously. In order to meet the demand, the Region 2 Traffic section spread the workload over available staff, prioritized efforts based on project complexity, and effectively communicated with specification writers and project leaders.

Giving their best efforts, the unit's largest and most complex project was finished past-due. "This is the lesson for us all," says Don Morris, Region 2's TCP Designer. "Even though you plan and carefully think through your workload, you're only one person. Think through everything and continue to do your best despite the imposing schedules. Communicate thoroughly and allow yourself time to do it right."

Portable Traffic Signals effective in Region 5

Portable traffic signals (PTS) can be an effective TCP tool when used properly. ODOT Region 5 crews in Eastern Oregon have used portable traffic signals on six projects since 2005. Their experience with this tool emphasizes the importance of effective signal timing.

One Region 5 project is currently using PTS to control traffic when the work site is not active. "The site has had problems with special events causing traffic to back up on one end of the signal," says David Stutzman, Sign and TCP Designer for Region 5. "The signal timing was not sufficient to clear the queue, so the contractor had flaggers on call to handle peak traffic flow."

Portable traffic signal on OR 66 at Hill Creek near Ashland.

The contractor is providing North America Traffic portable traffic signals, model PTL 2.4x, with the add-on feature of microwave sensor detection. Region 5 crews have observed the PTS operating using the microwave detection. "This seems to be very effective at night when the traffic volumes are light—less than 30 vehicles per hour after 8:00 PM," says Stutzman.

There are currently four portable traffic signals available on the ODOT Qualified Products List under Specification Number 00225.15. For more information, contact the TCP unit or go to the unit's website.

Region 3 TCP design in Roadway Section

Unlike its sister regions, ODOT Region 3 continues to keep its traffic control design in the Roadway unit of the Region 3 Tech Center. This configuration, made when the Region 3 Tech Center first formed, is unique to the other four regions where traffic control design is in the Traffic sections, with a few specialized designers.

All Region 3 traffic control designers (currently 11 designers, 6 in White City and 5 in Roseburg) are mainly Roadway Designers working either on the roadway design of the same project or sometimes splitting duties with another Roadway Designer for larger projects. While they still need assistance from Traffic section for work zone analysis, most all of the other technical work around traffic control design is developed by the roadway team.

This past year, Region 3's significant work on traffic control design centered on completing plans for the Interstate 5 Del Rio Interchange and the Rice Hill/Sutherlin Hill Climbing Lane projects on I-5 north of Roseburg. In the Medford Area, the team worked on getting the DAP designs complete for the I-5 Fern Valley Interchange project in Phoenix at milepost 24, as well as the planned Highway 62 Bypass intersection with existing Highway 62 just east of the I-5 north Medford Interchange.

UPDATED 2011 TRAFFIC CONTROL PLANS DESIGN MANUAL TO BE PUBLISHED IN FEBRUARY

The Traffic Control Plans (TCP) Design Manual is undergoing its annual update. The ODOT TCP Unit will be posting the 2011 edition of the manual to the unit's website later this spring. A change sheet will also be posted, giving an overview of the manual changes.

The traffic control industry is continually changing, and as such, the TCP manual needs to keep pace. The goal of the yearly update of the manual is to incorporate any recent changes to the standards, practices, devices, and technologies used in traffic control.

Major changes in the new manual include incorporating standards from the Manual for Assessing Safety Hardware (MASH); clarifications for several design practices; updated pedestrian considerations; and updated pilot car operations.

The 2011 TCP Manual will not include updates associated with the 2009 MUTCD. ODOT has not yet formally adopted the 2009 Manual on Uniform Traffic Control Devices (MUTCD), so any 2009 MUTCD updates will appear in next year's TCP manual.

Please keep an eye out for any errors or omissions in the 2011 design manual and forward comments to the TCP Unit.

The TCP Design Manual is updated annually by the ODOT TCP Unit and is available online at the TCP Unit website. The online version is considered the official document. The manual will not be published and distributed as a traditional printed publication; however, a color printed copy is offered to students completing the 3-day TCP Design Workshop. See the ODOT HR website for more details.

2011 OTTCH update

The Oregon Temporary Traffic Control Handbook (OTTCH) is being revised by the Traffic Control Plans Unit to meet the federal policies given in the 2009 Manual on Uniform Traffic Control Devices (MUTCD).

The OTTCH Review Committee is finalizing responses to comments it received during the document's comment period. Groups such as the Federal Highway Administration (FHWA), ODOT Maintenance Leadership Team (MLT), the Oregon Traffic Control Devices Committee (OTCDC), cities, and counties submitted comments to the group for consideration.

The OTTCH's next step is to be moved into the Oregon Administrative Rules (OAR) adoption process for final approval by the Oregon Transportation Commission (OTC).

Major updates to the 2011 edition include a new flagging chapter and updated language to meet the 2009 MUTCD. The manual should be ready for publication later this spring.

The OTTCH provides a reference for the principles and standards for temporary traffic control zones in place continuously for three days or less on public roads in Oregon. It is based on Part 6 of the MUTCD and is officially recognized in OAR 734-020-0005. The May 2006 edition is the current official edition of the OTTCH.

Lane closure on Interstate 84 in the Columbia River Gorge in 2009.

New faces to the ODOT Traffic Control Plans Unit

There have been some recent staffing changes at the TCP Unit. Alex Bettinardi has taken a Senior Transportation Analyst position in the ODOT Planning Section and Amanda Westmoreland has taken a new position as the ODOT Region 2 Senior Traffic Investigator. Justin King has taken Alex's old position as the TCP Quality Assurance Engineer, and Eric Leaming has taken Amanda's old position as the Work Zone Traffic Analyst.

Justin joined the TCP crew in May 2010. He is a native Oregonian with a Civil Engineering degree from Oregon State University and is a registered professional engineer in Oregon. Justin comes to us from the Washington State DOT, where he worked for seven years in a design and construction office, designing and inspecting highway improvement projects. Justin lives in Tigard with his wife and they recently celebrated their son's first birthday in December. On the side, he enjoys spending time with family, playing sports, and woodworking. Justin is excited help the TCP Unit shape the future.

Eric joined the TCP crew in November 2010. He is also a native Oregonian with a Civil Engineering degree from the Oregon Institute of Technology in Klamath Falls, and has finished his rotations through the ODOT Graduate Engineering Program. He has worked for ODOT in the Medford construction office, Transportation Planning Analysis Unit, Region 2 Traffic Unit, and Tech Services' Traffic Operations Unit. He has lived in Eugene, Medford, Klamath Falls, and Salem and enjoys spending time with his wife. Eric is looking forward to serving in this new position and learning from the talented TCP professionals in the state.

Editor's note: Justin will be the Interim ODOT Sign Engineer for the next couple of months, temporarily filling the vacancy left by Mike Kimlinger's promotion to the ODOT Traffic Standards Engineer.

Work Zone Traffic Analysis—strategies around the country

The Federal Highway Administration Office of Operations recently hosted a webinar discussing different work zone analysis tools used around the country. State departments of transportation from Missouri, Ohio, and Wisconsin discussed their various strategies to minimize delay to the traveling public and their tools used to implement these strategies.

The analysis tools were mostly Microsoft Excel spreadsheets used for sketch-level planning. The states' methodologies were fairly similar to each other, comparing estimated traffic demand to work zone capacity to establish lane closure restrictions and estimate delay and queue lengths.

The discussion focused primarily on freeway projects, especially in urban areas with many parallel routes.

The November 18, 2010 webinar can be viewed online at http://fhwa.adobeconnect.com/p48794404/.

Oregon's work zone analysis tool began as an Excel spreadsheet and has evolved in recent years to an internet-based tool. Oregon DOT's methodology compares estimated traffic demand to a work zone "free-flow threshold" to minimize delays and avoid creating queues, especially on high-volume, high-speed highways.

For more information on Oregon DOT's work zone traffic analysis methodology, go to the TCP Unit's website.

Upcoming Opportunities

Temporary Traffic Control Plans Design Workshop

This class provides Traffic Control Plan Designers, inspectors, and their leaders with the principles and practices of Traffic Control Plans (TCP) Design. Topics to be covered include TCP design standards and practices; standard drawings; traffic control devices and measures; and specifications, special provisions, and cost estimates. A background in roadway or traffic is desirable.

March 8-10, 2011 | ODOT Technical Leadership Center, Salem | $150 | 21 PDH

Register Online: http://www.oregon.gov/ODOT/HWY/TECHSERV/training.shtml

Traffic Signal Design

This two-day course offered through Oregon State University will cover traffic signal design principles, concepts and criteria, and will provide participants with a basic understanding of traffic signal design and the overall design process. Topics will include MUTCD warrant analysis; operations and phasing; equipment; pedestrian considerations; and detection design, among others.

March 16-17, 2011 | University of Oregon Portland campus, Portland | $335 | 13 PDH

Register Online: http://kiewit.oregonstate.edu/workshops.html

Uniform Traffic Control Devices Workshop

This class, provided by Oregon State University, is designed for persons responsible for signing, signalization, and road marking. The course provides instruction and practice in the use of the Manual on Uniform Traffic Control Devices and the Oregon supplements to the Manual. Changes in the 2009 Manual will be addressed. The TCP Unit's Don Wence will be teaching on March 31.

March 29-31, 2011 | Oregon State University Kiewit Center, Corvallis | $335 | 19.5 PDH

Register Online: http://kiewit.oregonstate.edu/workshops.html

If you know of any TCP-related classes, conferences, or learning opportunities, please let the TCP Unit know! We'll do our best to include it in the *Upcoming Opportunities* section of *In The Zone*!

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VOLUME 1 | ISSUE 1| JANUARY 2011

Westbound temporary traffic control on Beltline Highway at Interstate 5 in Springfield, 2010. Credit: Nick Fortey, FHWA.

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